WIRB Final Report

Project Name: Twelve-Mile Lake Watershed Project

Project Number: 1102-001

HUC #: 10280102, Thompson River

Applicant: Creston City Water Works

Planning Period: January 1, 2012 to December 31, 2014

Date Report Prepared: January 22, 2015

Introduction

Twelve-Mile Lake is an 800-acre man-made lake in central Union County. The watershed has 13,964 land acres that are used by farmers for row crops and pasture. This lake is used as a water supply source for the City of Creston and the Southern Iowa Rural Water Association. In total approximately 40,000 people are affected by this project. Developed over 20 years ago, the lake and fishery was renovated and restocked and much of the shoreline was riprapped about six years ago. During its history, extensive watershed efforts have been ongoing.

However, as farmland for cropland has become more valuable and demand has increased, hilly land once used for dairy farming, grazing, and CRP has been put into row crop production. Consequently, sediment loss has become an increasing issue for farmers, conservation professionals, and the Creston Waterworks Department, which owns the water treatment facility at the lake. In 2011, the Creston Water Board received a WIRB grant to implement a sedimentation structure at the north end of the main channel flowing into the lake. The WIRB funds were used for land acquisition, with the IDNR actually constructing the facility. This report depicts work performed as part of the WIRB project.

Financial Accountability

The primary cost share mechanism used in this grant was the WIRB funds contributing $160,364.60, or 21% of the overall project. The Creston Waterworks provided $155,754.60, or 20%, and the Iowa DNR provided $464,057.84, or 59%. The total expenditure for this project was $780,177.04.

WIRB Funds Expended by Line Item

Grant Agreement Budget Line Item	Total Approved Funds ($)	Amended Approved Funds ($)	Total Funds Expended ($)	Available Funds ($)
Land Acquisition	$160,425	$153,268.85	$154,364.60	($1,095.75)
Contractual- Grant Management	$6,000.00	$6,000.00	$6,000.00	$0.00
Water Monitoring	$3,000.00	$3,000.00	$0.00	$3,000.00
Supplies	$500.00	$500.00	$0.00	$500.00
Totals/Difference	$169,925.00	$162,768.85	$160,364.60	$2,404.25

The available funds issue should be explained. In 2013, an amendment was requested when we had thought all land acquisition costs had been expended, but during the project, additional fencing to secure the property was purchased (funded 50% WIRB and 50% local). Water monitoring costs were funded by the IDNR through their program and through a local trained volunteer. This volunteer contributed hours, and the IDNR did not submit an invoice, so the water monitoring was handled with non-WIRB funds. No supplies were necessary or were paid through other sources and no invoices were given.

Funding Expended by Source

Funding Source	Cash		In-kind Contributions		Total	
	Amended budget ($)	Actual ($)	Amended budget ($)	Actual ($)	Amended budget ($)	Actual ($)
WIRB	$162,768.85	$160,364.60	$0	$0	$162,768.85	$160,364.60
Creston Waterworks	$160,425.00	$154,364.60	$4,000.00	$1,390.00	$164,425.00	$155,754.60
Iowa DNR	$300,000.00	$464,057.84	$0	$0	$300,000.00	$464,057.84
Union Co. SWCD	$0.00	$0.00	$250.00	$0.00	$250.00	$0.00
Totals	$623,193.85	$778,787.04	$4,250.00	$1,390.00	$627,443.85	$780,177.04

Grant application approved WIRB percentage: 27%
Actual WIRB percentage: 21%

Environmental Accountability

Project Goals

Goals for the project were to reduce sediment delivery to Twelve Mile Lake by 50% from pre-practice amounts, which amounts to 1,895 tons per year, and phosphorus loading reduction by 2,463 pounds per year, by purchasing land and building a nearly 40-acre sediment retention structure (basin). Using the Sediment Delivery Calculator, the local NRCS/SWCD office calculated the actual reduction as exactly the same as the projected reduction in the application. Generally, the project proceeded as proposed, although the actual land purchased was slightly less than proposed. This is because, following the land survey, a few less acres of land was needed than estimated. The costs for the basin itself actually was 40% higher than projected, but the IDNR invested the additional funds in order to build the basin as planned in the application.

Practices Installed/Environmental Benefits

Grant Agreement Conservation Practices and Activities	Units	Approved Application Goal	Accomplishments	% Completion
Land acquisition *	Acres	103.5	97.78	94.5%
Sediment Basin	Quantity (acres)	1 (40)	1 (40)	100%
Sediment Delivery Reduction	Tons/Yr.	1,895	1,895	100%
Phosphorous Reduction	Lbs./Yr.	2,463	2,463	100%

** Not a BMP but was a grant activity that enabled for the conservation BMP to be built. Note that the reduction in acres purchased was not because of funding shortage but because the final survey determined less land than anticipated was needed. Therefore, the amount of land purchased was enough to meet the overall project goal.*

Project Map


Contour 1186.0 Approximately 28 Acres
Contour 1186.0 continuous upstream
Contour 1182.0 shown
Section Corner T73N R30W
Contour 1185.0 is Auxiliary Spillway Elevation of Twelve Mile Creek Lake
Normal Pool Approximately 39 Acres
NRCS
TWELVE MILE CREEK LAKE WETLAND
PRELIMINARY LAND RIGHTS MAP
Union County, Iowa
Designed
Drawn Bruce E. Dake 06/2010
Checked
Approved
Date

Program Accountability

Administration
The Creston Waterworks hired the Southern Iowa Council of Governments (SICOG) to manage the grant, which involved preparing GAX forms, ledgers, reports, and plans of work. SICOG attended numerous trainings sponsored by the WIRB and talked on the phone with WIRB coordinator Jerry Neppel regularly to ensure that the project and associated paperwork were proceeding correctly. Practices were installed by the Iowa DNR using specification from its qualified engineering staff. The land purchase was made through qualified staff and consulting surveyors and attorneys. The WIRB recipient (Creston Waterworks) owns and will maintain the basin in partnership with the IDNR.

Deviations from the Original Grant
Two project amendments were needed to address changes in the project. The first was a reduction in the WIRB share for the land acquisition due to cost savings of nearly $15,000 in that line-item (split 50% WIRB, 50% recipient). The second major change occurred at the end of 2013, when the grant was to expire, but the IDNR did not yet construct the basin. Budget issues at the IDNR necessitated a delay of the construction by one year. With the one-year extension, the project was completed in 2014. Overall, the scope of work was not much different than what was proposed in the application and the WIRB approved scope of work.

Associated and Future Watershed Work
The local NRCS/SWCD office simultaneously completed other work in the watershed, including at least 4 upstream grade stabilization structures, 7.6 acres of waterways, 36,200 linear feet of terraces, 6.3 acres of filter strips, and 10 sediment control basins. The NRCS/SWCD office also performed marketing, outreach, and education to area farmers and landowners in support of the WIRB project and its upstream work.

Future work will be ongoing upstream and on the other small streams flowing into the lake, mostly with other funds, including local funds and other cost share programs. At this time, no future WIRB funds are planned for this watershed, but that could change, as work continues in the watershed.

Future watershed work should involve installing conservation on the uplands whenever and wherever possible. Soaring agriculture commodity prices affects land uses. While prices are back down right now, they are likely to increase in the future. Many acres of the watershed continue to be converted to row crop. Conversion of sensitive land to crop production could have a profound effect on the amount of sediment delivered to the lake if conservation practices are not installed.